

=> fil reg; d que 12
FILE 'REGISTRY' ENTERED AT 15:45:54 ON 12 JAN 2004
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STRUCTURE FILE UPDATES: 9 JAN 2004 HIGHEST RN 635758-32-6
DICTIONARY FILE UPDATES: 9 JAN 2004 HIGHEST RN 635758-32-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

L2 6 SEA FILE=REGISTRY ABB=ON CCCUUUAGUUUCUCUGCUUUAGUGGGGUUAUUGGUC
AGCAUCACACCACAAAAAGUCAUGCUGCCUUCUUUACAACCGUGAUCAUCCAGCCAUUGUU
GGGGG|CCCCCAACAAUGGCUGGAAUGAUCACGGUUGUAAGAAGGCAGCAUGACUUUUUUGU
GGUGUGAUGCUGACCAUAACCCACUAAAGCGAGAGAACUAAAGGG/SQSN

=> d rn cn sql kwic nte lc 1-6

L2 ANSWER 1 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN 417995-53-0 REGISTRY
CN GenBank AB057126 (9CI) (CA INDEX NAME)

SQL 223
= sequence length

SEQ 1 cccttagtt tctctcgctt tagtgggtt attggtcagc atcacaccac
===== ===== ===== ===== ===== =====
51 aaaaaagtca tgctgccttc tttacaaccg tgatcattcc agccattgtt
===== ===== ===== ===== ===== =====
101 ggggtatcg ctacaggtgc tgctgttagga acggtctcag ggcttcttgg
=====

HITS AT: 1-105

LC STN Files: GENBANK

L2 ANSWER 2 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN 392992-38-0 REGISTRY
CN GenBank BD009535 (9CI) (CA INDEX NAME)
SQL 105

SEQ 1 cccttagtt tctctcgctt tagtgggtt attggtcagc atcacaccac
===== ===== ===== ===== ===== =====
51 aaaaaagtca tgctgccttc tttacaaccg tgatcattcc agccattgtt
===== ===== ===== ===== ===== =====
101 ggggg
=====

HITS AT: 1-105

RELATED SEQUENCES AVAILABLE WITH SEQLINK

LC STN Files: GENBANK

Seq 126 & its complement

L2 ANSWER 3 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN 392992-37-9 REGISTRY
CN GenBank BD009534 (9CI) (CA INDEX NAME)
SQL 105

SEQ 1 cccttagtt tctctcgctt tagtgggtt attggcagc atcacaccac
===== ===== ===== ===== ===== =====
51 aaaaaagtca tgctgccttc tttacaaccg tgatcattcc agccattgtt
===== ===== ===== ===== ===== =====
101 ggggg
=====

HITS AT: 1-105

RELATED SEQUENCES AVAILABLE WITH SEQLINK

LC STN Files: GENBANK

L2 ANSWER 4 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN 385888-56-2 REGISTRY
CN GenBank AJ390719 (9CI) (CA INDEX NAME)
SQL 105

SEQ 1 cccttagtt tctctcgctt tagtgggtt attggcagc atcacaccac
===== ===== ===== ===== ===== =====
51 aaaaaagtca tgctgccttc tttacaaccg tgatcattcc agccattgtt
===== ===== ===== ===== ===== =====
101 ggggg
=====

HITS AT: 1-105

RELATED SEQUENCES AVAILABLE WITH SEQLINK

LC STN Files: GENBANK

L2 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN 251882-25-4 REGISTRY
CN GenBank AJ390718 (9CI) (CA INDEX NAME)
SQL 105

SEQ 1 cccttagtt tctctcgctt tagtgggtt attggcagc atcacaccac
===== ===== ===== ===== ===== =====
51 aaaaaagtca tgctgccttc tttacaaccg tgatcattcc agccattgtt
===== ===== ===== ===== ===== =====
101 ggggg
=====

HITS AT: 1-105

RELATED SEQUENCES AVAILABLE WITH SEQLINK

LC STN Files: CA, CAPLUS, GENBANK, TOXCENTER

L2 ANSWER 6 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN 206670-30-6 REGISTRY
CN DNA (Helicobacter pylori clone N3001 vacA gene fragment) (9CI) (CA INDEX NAME)
SQL 105

SEQ 1 cccttagtt tctctcgctt tagtgggtt attggcagc atcacaccac
===== ===== ===== ===== ===== =====
51 aaaaaagtca tgctgccttc tttacaaccg tgatcattcc agccattgtt
===== ===== ===== ===== ===== =====
101 ggggg
=====

HITS AT: 1-105

RELATED SEQUENCES AVAILABLE WITH SEQLINK

LC STN Files: CA, CAPLUS, USPATFULL

=> fil capl toxcenter uspatfull; s 12
FILE 'CAPLUS' ENTERED AT 15:46:29 ON 12 JAN 2004
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FILE 'TOXCENTER' ENTERED AT 15:46:29 ON 12 JAN 2004
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FILE 'USPATFULL' ENTERED AT 15:46:29 ON 12 JAN 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

L3 6 L2

=> dup rem 13
PROCESSING COMPLETED FOR L3
L4 5 DUP REM L3 (1 DUPLICATE REMOVED)
ANSWERS '1-3' FROM FILE CAPLUS
ANSWERS '4-5' FROM FILE USPATFULL

=> d ibib ab hitrn 1-5; fil hom

L4 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2001:156517 CAPLUS
DOCUMENT NUMBER: 134:203312
TITLE: Expanding allelic diversity of *Helicobacter pylori*
vacA. [Erratum to document cited in CA129:326775]
AUTHOR(S): van Doorn, Leen-Jan; Figueiredo, Ceu; Sanna, Ricardo;
Pena, Salvador; Midolo, Peter; Ng, Enders K. W.;
Atherton, John C.; Blaser, Martin, J.; Quint, Wim G.
V.
CORPORATE SOURCE: Delft Diagnostic Laboratory, Delft, 2625 AD, Neth.
SOURCE: Journal of Clinical Microbiology (2000), 38(6), 2464
CODEN: JCMIDW; ISSN: 0095-1137
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The following paragraph should be inserted at the end of Materials and
Methods: "Nucleotide sequence accession nos. The nucleotide sequences of
vacA have been deposited in the GenBank database under accession no.
AJ390591 to AJ390744."
IT 251882-25-4, GenBank AJ390718
RL: PRP (Properties)
(nucleotide sequence; expanding allelic diversity of *Helicobacter*
pylori vacA (Erratum))

L4 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:156514 CAPLUS
DOCUMENT NUMBER: 134:203200
TITLE: Typing of *Helicobacter pylori* vacA gene and detection
of cagA gene by PCR and reverse hybridization.
[Erratum to document cited in CA129:90935]
AUTHOR(S): van Doorn, L, J.; Figueiredo, C.; Rossau, R.; Jannes,
G.; van Asbroeck, M.; Sousa, J. C.; Carneiro, F.;
Quint, W. G. V.
CORPORATE SOURCE: Delft Diagnostic Laboratory, Delft, Neth.
SOURCE: Journal of Clinical Microbiology (2000), 38(6), 2464
CODEN: JCMIDW; ISSN: 0095-1137
PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The following paragraph should be inserted at the end of Materials and Methods: "Nucleotide sequence accession nos. The nucleotide sequences of vacA and cagA genes have been deposited in the GenBank database under accession no. AJ390591 to AJ390744 and AJ269852 to AJ269897.".

IT 251882-25-4, GenBank AJ390718

RL: PRP (Properties)

(nucleotide sequence; typing of Helicobacter pylori vacA gene and detection of cagA gene by PCR and reverse hybridization (Erratum))

L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:256194 CAPLUS

DOCUMENT NUMBER: 128:304781

TITLE: Probes and primers for the vacA and cagA genes of Helicobacter and the diagnosis and prognosis of infection

INVENTOR(S): Quint, Wilhelmus; Van Doorn, Leendert-Jan

PATENT ASSIGNEE(S): Innogenetics N.V., Belg.; DDL B.V.; Quint, Wilhelmus; Van Doorn, Leendert-Jan

SOURCE: PCT Int. Appl., 122 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|-------------|
| WO 9816658 | A2 | 19980423 | WO 1997-EP5614 | 19971010 |
| WO 9816658 | A3 | 19980820 | | |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9748669 | A1 | 19980511 | AU 1997-48669 | 19971010 |
| AU 732099 | B2 | 20010412 | | |
| EP 946747 | A2 | 19991006 | EP 1997-911215 | 19971010 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| JP 2001502536 | T2 | 20010227 | JP 1998-518004 | 19971010 |
| US 2003165860 | A1 | 20030904 | US 2001-35978 | 20011221 |
| US 2003175746 | A1 | 20030918 | US 2002-263594 | 20021002 |
| PRIORITY APPLN. INFO.: | | | EP 1996-870131 | A 19961016 |
| | | | EP 1997-870133 | A 19970909 |
| | | | WO 1997-EP5614 | W 19971010 |
| | | | US 1999-284725 | B1 19990416 |
| | | | US 2000-531037 | B1 20000320 |

AB Primers and probes for detection of alleles of the vacA and cagA genes of Helicobacter pylori that can be used in the diagnosis of the disease and in the typing of the strain involved for prognosis of infection are described. Similar probes and primers may be used for the detection of other virulence genes.

IT 206670-30-6

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(nucleotide sequence, primers and probes derived from; probes and primers for vacA and cagA genes of Helicobacter and diagnosis and prognosis of infection)

L4 ANSWER 4 OF 5 USPATFULL on STN
 ACCESSION NUMBER: 2003:250960 USPATFULL
 TITLE: Probes, methods and kits for detection and typing of
 Helicobacter pylori nucleic acids in biological samples
 INVENTOR(S): Quint, Wilhelmus, Nootdorp, NETHERLANDS
 Van Doorn, Leendert-Jan, Ridderkerk, NETHERLANDS

| | NUMBER | KIND | DATE |
|-----------------------|--|------|---------------|
| PATENT INFORMATION: | US 2003175746 | A1 | 20030918 |
| APPLICATION INFO.: | US 2002-263594 | A1 | 20021002 (10) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 2000-531037, filed on 20 Mar 2000, ABANDONED Division of Ser. No. WO 1998-EP9705614, filed on 23 Apr 1998, UNKNOWN | | |

| | NUMBER | DATE |
|-----------------------|---|----------|
| PRIORITY INFORMATION: | EP 1997-870133 | 19970909 |
| | EP 1996-870131 | 19961016 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | KNOBBE MARTENS OLSON & BEAR LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614 | |
| NUMBER OF CLAIMS: | 20 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 66 Drawing Page(s) | |
| LINE COUNT: | 4267 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method for the detection and/or typing of Helicobacter pylori (H. pylori) strains present in a sample including the steps of (i) amplifying the polynucleic acids of target regions of the vacA gene and the cagA gene, with suitable primer pairs, the primers being generally applicable on different H. pylori strains, where the target regions include a conserved region in the case of the cagA alleles and a variable region in the case of the vacA alleles; (ii) hybridizing the polynucleic acids obtained with a set of at least two VDG (virulence determinant gene)-derived probes, and with at least one of the probes hybridizing to a conserved region of a cagA of H. pylori, and with at least one of the probes hybridizing to a variable region of vacA; (iii) detecting the hybrids formed; and (iv) detecting and/or typing H. pylori strains present in a sample from the differential hybridization signals obtained. The present invention also relates to probes and primers for doing the same as well as Helicobacter pylori detecting/typing kits.

IT 206670-30-6

(nucleotide sequence, primers and probes derived from; probes and primers for vacA and cagA genes of Helicobacter and diagnosis and prognosis of infection)

L4 ANSWER 5 OF 5 USPATFULL on STN
 ACCESSION NUMBER: 2003:237703 USPATFULL
 TITLE: Probes, methods and kits for detection and typing of
 Helicobacter pylori nucleic acids in biological samples
 INVENTOR(S): Quint, Wilhelmus, Nootdorp, NETHERLANDS
 Van Doorn, Leendert-Jan, Ridderkerk, NETHERLANDS

| | NUMBER | KIND | DATE |
|-----------------------|--|------|---------------|
| PATENT INFORMATION: | US 2003165860 | A1 | 20030904 |
| APPLICATION INFO.: | US 2001-35978 | A1 | 20011221 (10) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 1999-284725, filed on 16 Apr 1999, ABANDONED A 371 of International Ser. No. WO | | |

1997-EP5614, filed on 10 Oct 1997, UNKNOWN

| | NUMBER | DATE |
|-----------------------|---|----------|
| PRIORITY INFORMATION: | EP 1996-870131 | 19961016 |
| | EP 1997-96870133 | 19970909 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | KNOBBE MARTENS OLSON & BEAR LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614 | |
| NUMBER OF CLAIMS: | 24 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 61 Drawing Page(s) | |
| LINE COUNT: | 3996 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method for the detection and/or typing of *Helicobacter pylori* (*H. pylori*) strains present in a sample comprising the steps of: (i) if need be releasing, isolating or concentrating the polynucleic acids in the sample, (ii) amplifying the polynucleic acids of relevant target regions of the *vacA* gene and possibly other virulence determinant genes (VDG), with suitable primer pairs, said primers being generally applicable on different *H. pylori* strains, allowing to amplify said relevant target regions of the VDG preferentially in compatible amplification conditions; (iii) hybridizing the polynucleic acids obtained in (i) or (ii) with a set of at least two VDG-derived probes, under appropriate hybridization and wash conditions, and with at least one of said probes hybridizing to a conserved region of a VDG of *H. pylori*, and with at least one of said probes hybridizing to a variable region of *vacA*; (iv) detecting the hybrids formed in step (iii), (v) detecting and/or typing *H. pylori* strains present in a sample from the differential hybridization signals obtained in step (iv), with said typing being the allele-specific detection of a strain according to the VDG alleles present in that particular *H. pylori* strain, and the said virulence determinant genes being the genetic elements involved in enabling, determining, and marking of the infectivity and/or pathogenicity of said *H. pylori* strain. The present invention also relates to probes and primers for doing the same as well as *Helicobacter pylori* detecting/typing kits. The present invention also discloses novel sequences of VDG, which can be used for designing the above-mentioned primers and probes.

IT 206670-30-6

(nucleotide sequence, primers and probes derived from; probes and primers for *vacA* and *cagA* genes of *Helicobacter* and diagnosis and prognosis of infection)

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